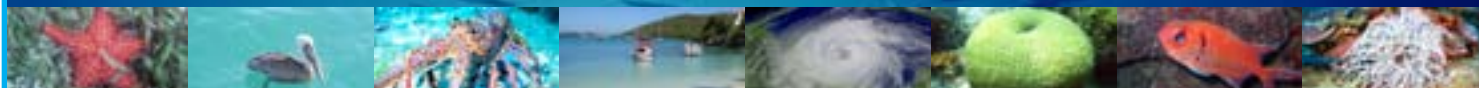


# NOAA IN THE CARIBBEAN

CONNECTING NOAA & PARTNERS ACROSS THE CARIBBEAN



Volume 1 | Issue 1

February | 2012

## Introducing NOAA in the Caribbean

**NOAA enhances its regional focus with new NOAA in the Caribbean initiative**

Predicting hurricanes, mapping coral reefs, monitoring climate change, operating tsunami warning systems, managing fisheries and producing navigation charts are just a few of the NOAA services of economic and environmental importance to the people of the Caribbean. NOAA has an increasingly broad portfolio of activities in the Caribbean, both nationally and internationally, for supporting health, security and sustainable livelihoods. Given the diversity and geographic extent of projects across the region, effective communication and coordination can be challenging. To address this, NOAA's Southeast and Caribbean Regional Team initiated NOAA in the Caribbean (NOAACarib). NOAACarib is a forum to improve communication and coordination both within NOAA and with partners in the region.

NOAACarib includes NOAA employees and partners currently active in research, management, training and other efforts in the Caribbean region. In 2011, a

steering committee of 15 volunteers was assembled to define and coordinate NOAACarib, with representatives from several NOAA Line Offices including NOAA staff located in Puerto Rico and U.S. Virgin Islands, as well as representatives from the territorial governments of the U.S. Caribbean.

Work is now underway to lay the foundations of our new initiative. Our primary aim is to support a more integrated and coordinated approach enabling efficient and effective dialogue on Caribbean activities.

In time we aim to increase international collaborations, improve data availability and information sharing, coordinate regional meetings, attract new resources, better target local needs, and increase awareness of Caribbean challenges and opportunities.

This quarterly newsletter is one of the first products to come from NOAACarib. As it evolves, the newsletter will provide

interesting news items reporting on NOAA partnerships in the Caribbean, updates on new data, announcements of funding opportunities, upcoming events and more. We welcome feedback on the newsletter style and content, and we are always interested in hearing about any story ideas that help connect NOAA and partners in the Caribbean. ■

*Simon Pittman, Editor-in-Chief and  
NOAACarib Steering Committee Member  
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### IN THIS ISSUE

- 1 Introducing NOAA in the Caribbean**
- 2 NOAA's Caribbean Strategy**  
Science to meet management needs
- 2 Fishing for Traps**  
Fishermen and scientists team for study
- 3 News from Around the Caribbean**
- 5 Data Zone**  
Access to latest NOAA data portals
- 6 Profiles in Partnership**  
St. Thomas East End Reserves & Jobos Bay Watershed Projects
- 7 An Eye on Coral Reefs**  
Coral Reef Watch Data Call
- 7 Share Your Photos & Artwork**
- 8 Upcoming Events & Announcements**



Members of the NOAA in the Caribbean Steering Committee.



# NOAA's Caribbean Strategy

## Science to Meet Management Needs

The Caribbean Strategy is a new NOAA-wide strategic approach to coordinate and integrate the abilities of all NOAA offices to address regional issues and enhance international collaboration in the region. In 2011, NOAA's Ocean and Coastal Council called for the development of the Strategy, which outlines three core



NOAA developed its Caribbean strategy to address regional issues and enhance collaboration. Credit: NOAA

goals to identify and respond to regional challenges, needs, and opportunities in collaboration with local partners, both for the immediate future and longer term. The goals are: (1) to improve the conservation and management of ocean and coastal ecosystems and resources; (2) strengthen the understanding of, and adaptation to, a changing climate; and (3) enhance multi-hazard monitoring, forecasting and risk management.

NOAA recognizes that the Caribbean region is highly relevant to the environmental and other security interests of the United States. A principal motive for this strategy is to develop and better align NOAA's engagement and leadership in the Caribbean. NOAA is already engaged on many issues with domestic and international stakeholders throughout the Caribbean, and that

engagement and leadership will be further developed and aligned through the Caribbean Strategy.

The draft strategy, developed by an internal team with representatives from each NOAA line office, and reviewed by NOAACarib, supports both the NOAA Next Generation Strategic Plan and the National Ocean Policy. The strategy has undergone internal review and is expected to soon be available for wider public review, with official rollout anticipated for early in 2012. ■

*Jeff Payne, NOAACarib Steering Committee Member  
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## Fishing For Traps

### Researchers Team with Fishermen for Derelict Fish Trap Study

When the large metal-framed traps used by commercial fishermen in the Caribbean are no longer functional, they are often disposed of at sea. Many other traps are lost during storms and to ship strikes. With 4,792 fish traps and 2,638 lobster traps active in St. Thomas, U.S. Virgin Islands today, NOAA scientists partnered with the St. Thomas Fishermen's Association (STFA) and others to study their distribution and potential impacts on seafloor habitats and fish populations.

"This study is important because it gives NOAA, the fishermen and the management community new information about derelict traps," Randy Clark, a scientist with NOAA's National Centers for Coastal Ocean Science (NCCOS) and project lead, explained.

Trap use varies in the area. For instance, in St. Croix the number of active fish traps

is around 600, while lobster traps are not used.

Through a series of experiments scientists and fishermen gathered the first-ever data on the distribution of derelict traps, the rate at which active traps become derelict and the ecological impact of lost traps.

Using experimental traps and underwater surveillance cameras for six months, they found that fish mortality ("ghost fishing") was low; 5% of the fishes captured in traps perished in that time. This result was similar to mortality studies previously conducted by STFA.

After a period of time the traps were colonized by sea life and often served as a refuge for juvenile fish. Working with the U.S. Navy, the researchers also successfully tested autonomous underwater vehicles to search for and identify lost traps.

In the end, these studies not only shed light on the fate of derelict fish and lobster traps, but illustrate how scientists can work with local fishing communities to answer questions held by both communities.

"Our [STFA] involvement works two ways in that fishermen come to understand how this information is developed and the scientific community can take advantage of their [fishermen] knowledge and expertise," David Olsen, STFA chief scientist, said. "The end result is that both sides have confidence in the results."

Please visit the project's [web site](#) to learn more. This project is supported by the NOAA Marine Debris Program and the Coral Reef Conservation Program. ■

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# News from Around the Caribbean

Connecting you with news and updates from NOAA and partners around the U.S. and international Caribbean

## U.S. Caribbean

### New maps guide oil spill responders to priority areas

A multi-agency collaboration led to an updated geographic response plan for Puerto Rico and the U.S. Virgin Islands in the event of an oil spill or major hazardous substance leak. The [Geographic Response Plan](#) identifies priority protection areas (i.e., seagrass beds, coral reefs, known endangered species locations), resources at risk and targeted response strategies. Such maps are needed to reduce response time and to direct often limited local response resources to sensitive areas. It is part of a family of plans to be implemented with the National Oil and Hazardous Substances Pollution Contingency Plan. ■

NOAA Office of Response and Restoration  
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*Geographic response plan map for St. Croix.  
Credit: National Response Center*

### Identifying U.S. Caribbean coral reef ecosystem management needs

NOAA Management Capacity Needs Assessments are now underway in the U.S. Virgin Islands and Puerto Rico. These assessments will help identify where gaps exist in a jurisdiction's ability to achieve its management priorities. Outcomes from the capacity assessments will also be used to inform future funding decisions. The first step in this effort was the Management Priority Setting process done in collaboration with local coral reef managers in each jurisdiction to articulate a set of strategic coral reef management priorities. Those recommendations were

reviewed by managers and scientists and are now available [online](#). ■

NOAA Coral Reef Conservation Program  
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Antares.Ramos@noaa.gov (PR)

### Assembly of Puerto Rican shelf coral reef management community

In December 2011, coral reef managers, scientists and stakeholders from Puerto Rico, U.S. Virgin Islands and British Virgin Islands attended a coral assembly to exchange information, ideas and resources to improve coral reef condition and reduce threats to marine environments of the Puerto Rican shelf. The assembly was hosted by NOAA and The Nature Conservancy (TNC). Attendees shared experiences about their respective coral reef management programs and their effect on protecting coral reefs and associated resources. The group also discussed mechanisms for increasing capacity and identifying barriers to successful implementation of coral reef management techniques. Proceedings from the assembly will be available online in early 2012. ■

NOAA NCCOS  
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### USVI protected area nominated for the U.S. National System of MPAs

St. Thomas East End Reserves are set to join a network of marine protected areas (MPAs) subject to public consultation early in 2012 joining the East End Marine Park and the existing National Park Service network of MPAs. The national system and the [nomination process](#) are described in the Framework for the National System of Marine Protected Areas of the United States, developed in response to Executive Order 13158 on MPAs. ■

National Marine Protected Areas Center  
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### New rules establish annual catch limits for the U.S. Caribbean to end and prevent overfishing of fishery stocks

NOAA Fisheries Service implemented catch limits to prevent or end overfishing of species managed within the reef fish, spiny lobster, conch and coral fishery management plans in the U.S. Caribbean. The new regulations include accountability measures designed to respond to overages of the established catch limits. The regulations also establish measures to protect fish stocks in the commercial and recreational sectors, revise the management of aquarium trade species and conch resources, establish recreational fishing bag limits, and prohibit harvest of three species of parrotfish. Coral reef ecosystems and those species that rely on these ecosystems, especially parrotfish, will benefit from the added protection and conservation. For more information, see NOAA Fisheries Service's [web site](#). ■

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*Spiny lobster. Credit: NOAA*

## Questions or Comments?

We want to hear from you! Please e-mail us to [subscribe/unsubscribe to the newsletter](#) or to submit any questions, comments and story ideas at: [CaribbeanNews@noaa.gov](mailto:CaribbeanNews@noaa.gov).

*Editorial Note: blue underlined text indicates a live hyperlink. When viewing pages in an Adobe PDF, click to open relevant web pages.*





# News from Around the Caribbean

Connecting you with news and updates from NOAA and partners around the U.S. and international Caribbean

## International Caribbean

### NOAA co-hosted climate change in the Caribbean conference

From 15-16 November 2011, NOAA and several partners hosted "Climate Change in the Caribbean 2011: Puerto Rico and the U.S. Virgin Islands," in San Juan, Puerto Rico. The conference was the first in an anticipated series of workshops for decision makers and the public to enhance the understanding of climate change impacts in the Caribbean region and develop strategies and actions to reduce greenhouse gas emissions and minimize the risks due to a changing climate. Over 200 participants attended the two-day conference, which furthered the climate conversation in U.S. and international Caribbean jurisdictions to improve their resiliency to a changing climate. ■

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### CaMPAM Capacity Assessment Results Now Available

An initiative of NOAA's Coral Reef Conservation Program in partnership with the Caribbean Marine Protected Areas Management Network and Forum (CaMPAM), this report provides the results of an assessment of management capacity at 27 MPA sites in 10 Caribbean countries and territories. The project builds on previous capacity assessments by identifying gaps in those efforts and addressing them through a guided self-assessment conducted with MPA site managers. The assessment addressed criteria ranging from MPA management planning and governance to monitoring and education, fisheries management and resilience to climate change. The report also includes feedback from participating MPA site managers about priority capacity needs and their desired

approaches to capacity building. The assessment report is available [online](#). ■

NOAA Coral Reef Conservation Program  
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### Anguilla becomes first non-U.S.

#### TsunamiReady® community

Anguilla is now more prepared for a tsunami, having completed a rigorous set of preparation criteria to earn the first joint NOAA National Weather Service (NWS) and UNESCO TsunamiReady recognition. The governor of Anguilla received the official designation in December 2011, along with TsunamiReady signs and a recognition letter. Many communities in the U.S. Caribbean are already TsunamiReady thanks to the joint efforts of the NWS San Juan Weather Forecast Office, Emergency Management, the Puerto Rico Seismic Network and the Caribbean Tsunami Warning Program (CTWP). The CTWP was established in 2010 by the NWS in Mayagüez, Puerto Rico as the first step of a phased approach for the proposed [Caribbean Tsunami Warning Center](#). ■

NOAA National Weather Service  
Christa.vonH@noaa.gov



Entering A Tsunami Ready Community.  
Credit: NWS

### Protecting endangered mammals and threatened habitats in the Caribbean

The second [International Conference on Marine Mammal Protected Areas](#), took place in Martinique from 7-11 November 2011. Its theme was the protection of

endangered species and their threatened habitats. The conference explored how to manage MPAs for endangered marine mammals, identifying marine mammal critical habitat and hot spots, managing MPAs for localized threats and using marine spatial planning and ecosystem-based management to address broad threats to marine mammals. Over 30 specific recommendations were produced by the workshops and sessions, and these, along with full proceedings will be forthcoming. The meeting was organized by the French government in collaboration with NOAA. ■

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### NOAA coral bleaching alerts

NOAA [Coral Reef Watch](#) monitors coral bleaching stress at 40 Virtual Station sites in the Caribbean. A [virtual station](#) is like having a temperature sensor in the water next to a coral reef, but it is completely based on satellite measurements. To sign-up for free automated bleaching alert e-mails for any or all Caribbean virtual stations, please e-mail [coralreefwatch@noaa.gov](mailto:coralreefwatch@noaa.gov). ■

NOAA Coral Reef Watch  
Jacqueline.Shapo@noaa.gov



Coral Reef Watch virtual stations in the Caribbean. Credit: Coral Reef Watch

### International meeting on spill response

From 5-9 December 2011, NOAA joined the U.S. Coast Guard, State Department, Environmental Protection Agency and the Department of the Interior in an international meeting in the Bahamas focusing



## International Caribbean News

(continued from page 4)

on developing national plans for marine pollution preparedness in the Florida Straits. Spain's Repsol oil company will begin exploratory oil drilling off the coast of Cuba, less than 100 miles from the Florida coastline, and other Caribbean countries are also exploring for oil. U.S. delegates shared lessons learned from the Deepwater Horizon Oil spill and discussed regional efforts to improve oil spill prevention and response plans. ■

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Doug.Helton@noaa.gov

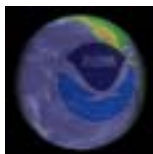
### NOAA and France partner to protect North Atlantic humpback whales

NOAA and France's Protected Areas Agency have signed a historic "sister sanctuary" agreement to support the protection of endangered humpback whales that migrate more than 3,000 miles annually between NOAA's [Stellwagen Bank National Marine Sanctuary](#) off the Massachusetts coast and Agoa Marine Mammal Sanctuary in the Caribbean's French Antilles. This new agreement builds on an effort begun in 2006 when the world's first sister sanctuary initiative focused on trans-boundary humpback whales and their critical habitats was launched between Stellwagen Bank Sanctuary and the Dominican Republic. ■

NOAA Office of National Marine Sanctuaries  
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Humpback whales feed in front of a NOAA research ship. Credit: NOAA Office of National Marine Sanctuaries

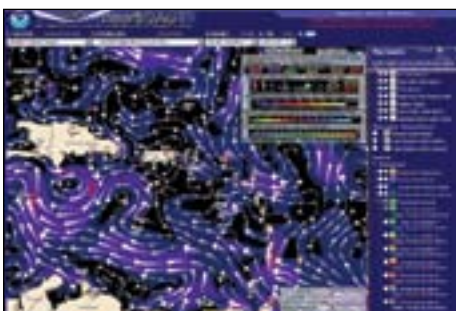


## Data Zone

Here we connect you with NOAA data portals and datasets for the Caribbean that are easily accessible via the internet

### NOAA's NowCOAST real-time coastal observations and forecasts

NOAA's [nowCOAST](#) is a GIS-based web mapping portal providing integrated, access to online, real-time coastal environmental observations and NOAA forecasts. NowCOAST provides users with displays of the latest surface weather and ocean observations, satellite cloud imagery, weather radar reflectivity mosaics, sea surface temperature analyses and gridded forecasts. The map allows users to display nowCOAST data by zooming/panning to their area of interest. A layer list and pull-down menus are provided to give the user full control of what data are displayed. NowCOAST was developed and is operated by NOS' Coast Survey Development Laboratory. ■



*It's fascinating!! Go ahead and play around with it!*

### NOAA's Digital Coast Data Access Viewer

Access to Caribbean data managed by the NOAA Coastal Services Center is provided through the [Data Access Viewer](#), which allows for user-specified geographies, formats and resolutions. Types of data include high resolution aerial photography (2007 and some areas from 2011), historical land cover maps (2003, 2005, 2007) and LiDAR terrain models. For convenience, the spatial

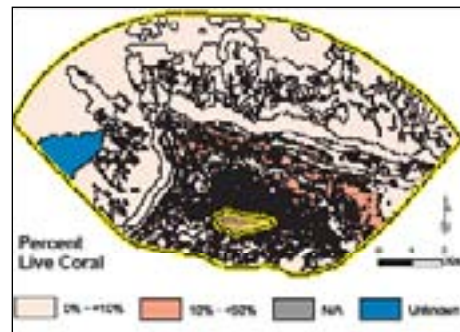
data are available as GeoTIFF's in multiple projections. ■



*NOAA's Digital Coast: Draw your area of interest, available data will show up, view metadata, add to cart and away you go...*

### Buck Island Reef National Monument habitat map now available

NCCOS Biogeography Branch has completed a benthic habitat map for the shallow to deep-water marine environments in Buck Island Reef National Monument. This effort marks the first time habitats deeper than 30 meters have been mapped at high resolution inside the monument, providing a critical baseline for managers to monitor moderate to deep water resources in the future. This mapping information will be available to view [online](#) and [download](#) in spring 2012. ■



*This figure depicts the spatial extent of live coral cover classes inside Buck Island Reef National Monument. Credit: NOAA NCCOS*





# Profiles in Partnership

Research highlights from the Caribbean with a focus on collaborations between NOAA and partners

## Local Managers and NOAA Scientists Team to Characterize Chemical and Biological Conditions in the St. Thomas East End Reserves

The St. Thomas East End Reserves (STEER), located off the southeast coast of St. Thomas, U.S. Virgin Islands, are a unique collection of marine reserves and wildlife sanctuaries and contain the largest area of mangroves on the island. However, the reserves are surrounded by a municipal dump, marinas, boatyards, residential areas served by septic systems and an



Scientists collect sediment samples for analysis in the STEER. Photo credit: NOAA NCCOS

EPA Superfund site, all of which may have impacts on the area's marine resources. An ongoing effort involving NOAA, the local government, the University of the Virgin Islands, TNC and others hopes to shed light on the presence of pollutants and their effects on the ecosystem.

"A primary goal of the project is to develop an integrated chemical and biological characterization that will provide resource managers with the information needed to make effective management decisions," explained Tony Pait, an environmental toxicologist and project lead with NOAA NCCOS.

The characterization is being done in coordination with other projects that will result in the development of a watershed management plan and a coastal use survey that will link landscape and seascape. The data from

this collaborative effort will ultimately help managers restore and maintain a functional ecosystem.

"There are many point and nonpoint sources of pollution that impact water quality; NOAA's research findings will provide essential information to reduce these impacts," Anne Marie Hoffman, TNC STEER coordinator, said. "We are very fortunate to have a variety of valuable partners working on STEER."

This project is supported by the NOAA Marine Debris Program and the Coral Reef Conservation Program. ■

Alicia Clarke, Content Editor  
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## Scientists Gather Baseline Ecological Data in Jobos Bay, Puerto Rico

The Jobos Bay Watershed in southwest Puerto Rico is home to agricultural lands and small pockets of industrialized areas. But just off its shores is the second largest estuarine area in the commonwealth and a coral reef ecosystem. Over the past five years, a collaborative effort between local and federal partners has provided insight into the current status and distribution of habitats, nutrients, contaminants and sea life to better understand how these resources are impacted by agricultural practices and other manmade stressors. [A Baseline Assessment of the Ecological Resources of Jobos Bay, Puerto Rico](#) (PDF) presents the most recent findings.

"We found the coral reef ecosystems outside of Jobos Bay are similar to what has been observed in other parts of Puerto Rico," David Whitall, a researcher with NOAA NCCOS and project lead, explained. "There was evidence of agricultural

pesticides reaching the bay when the pesticides were applied just prior to a heavy rain event, which emphasizes the importance of the timing of pesticide applications. In general, pollution levels in Jobos Bay were relatively low."

This work is part of the Conservation Effects Assessment Project, a multi-agency effort to quantify the benefits of conservation practices used by



Abandoned sugar mill adjacent to Jobos Bay. Credit: NOAA NCCOS

agricultural producers participating in the U.S. Department of Agriculture conservation programs.

"Now that this environmental baseline has been established, change in the system can be measured in future years. As watershed management practices are implemented, we'll be able to evaluate how effective they have been in improving coral reef ecosystem condition," Whitall said.

Project partners include: USDA, Jobos Bay National Estuarine Research Reserve, NOAA NCCOS, Coral Reef Conservation Program and the Puerto Rico government. ■

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# An Eye on Coral Reefs

## NOAA Coral Reef Watch Call for Recent Bleaching Data

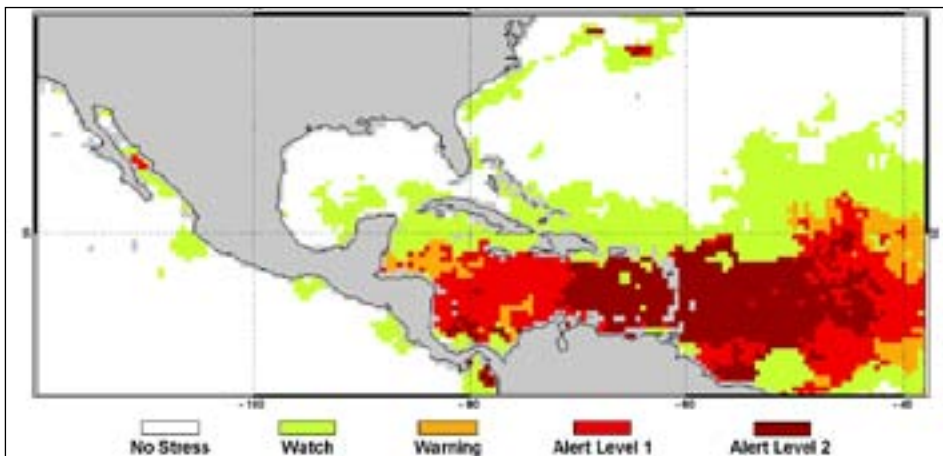
NOAA [Coral Reef Watch](#) (CRW) utilizes satellite remote sensing to monitor environmental conditions of coral reef ecosystems in near-real-time. NOAA CRW is currently requesting data on the extent and severity of coral bleaching and mortality in the Caribbean in 2010.

We also are requesting coral community composition data to test whether coral reefs impacted by bleaching in 2005 were less susceptible to the 2010 thermal stress. These data will be used to measure impacts of coral bleaching, mortality, and changes in community composition

due to the 2005 and 2010 bleaching events. Reports of no bleaching and no community composition change are also very important.

"The NOAA Coral Reef Watch satellite monitoring products provide great data for observing near-real-time, large-scale sea surface temperatures," Jeff Miller, a fisheries biologist stationed at the Virgin Islands National Park in St. John, U.S. Virgin Islands, said. "It is a valuable tool for scientists, managers and those interested in coral reefs who are remotely located from the areas they study."

If you are interested in collaborating with NOAA CRW by providing us with 2010 Caribbean coral bleaching and mortality data, please e-mail: [coralreefwatch@noaa.gov](mailto:coralreefwatch@noaa.gov).



*This CRW satellite coral bleaching alert from 30 September 2010 depicts areas in the Caribbean where thermal stress reached levels that can cause coral bleaching. Image credit: CRW*

Jacqueline Rauenzahn,  
NOAA Coral Reef Watch  
[Jacqueline.Shapo@noaa.gov](mailto:Jacqueline.Shapo@noaa.gov)

## SHARE YOUR Underwater Photos & Artwork

A picture is worth a thousand words, so we want to hear from you! Share your best Caribbean underwater and science-in-action stories captured through a camera's lens or an artist's pen. Two images will be featured in each issue. Please e-mail your photo or artwork to [CaribbeanNews@noaa.gov](mailto:CaribbeanNews@noaa.gov). Be sure to include your full name, affiliation, a one or two sentence description and the date the image was made.



**Illustrator:** Will Sautter,  
NOAA NCCOS

**Description:** A re-creation of an uncharted shipwreck colonized by marine life discovered during a NOAA NCCOS seafloor mapping mission in St. Thomas, U.S. Virgin Islands.

**Date:** April 2011



**Photographer:**  
Kimberly Roberson,  
NOAA NCCOS

**Description:** Mother and baby dolphin looking down playfully at a NCCOS Biogeography Branch scientific diver, St. Croix, U.S. Virgin Islands.

**Date:** October 2010



# Upcoming Events & Announcements

A preview of upcoming important events and happenings around the Caribbean and beyond

## Events & Announcements

### February 2012

**1:** NOAA NCCOS Center for Coastal Monitoring and Assessment launch of NOAA's *Coastal Ocean Science Blog*: <http://noaaoceanscience.wordpress.com/>

### March 2012

**21-24:** Old Dominion University 41st Benthic Ecology Meeting in Norfolk, Virginia

### April 2012

**2-4:** UNESCO IOC Seventh Session Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea & Adjacent Regions, Curacao

**3-20:** NOAA NCCOS seafloor mapping mission in Puerto Rico on the NOAA Ship *Nancy Foster*

### May 2012

**29-1 June:** Islands of the World XII Conference 2012 at H. Lavity Stoutt Community College, British Virgin Islands

### June 2012

**20-22:** UN Conference on Sustainable Development in Rio de Janeiro, Brazil

### July 2012

**9-13:** 12th International Coral Reef Symposium in Cairns, Queensland Australia at Cairns Convention Center

## Funding Opportunities

### U.S. Fish and Wildlife Service

Wildlife Without Borders-Latin America and the Caribbean  
Annual Deadlines: April 15 and October 15

<http://www.fws.gov/international/DIC/pdf/NOFALAC2010.pdf>

## NOAA in the Caribbean Newsletter Editorial Team

Please e-mail us at [CaribbeanNews@noaa.gov](mailto:CaribbeanNews@noaa.gov) to subscribe or unsubscribe to the newsletter or to submit any questions, comments, story ideas, artwork and photographs. *NOAA in the Caribbean Newsletter* is produced by NOAA's National Centers for Coastal Ocean Science (NCCOS), <http://coastalscience.noaa.gov/>. Contract labor was provided by Consolidated Safety Services (CSS).

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